Remarks

Accompanying this amendment is a petition and fee authorization for a one month extension of time.

The specification and claims have been reviewed in light of the office action to which this amendment is responsive. Claim 8 has been cancelled. Claim 3 is the sole pending claim.

The undersigned attorney apologizes for the obvious inconvenience caused by the These specification amendments are being resubmitted with correct location citations.

The priority claim has been amended to recite the U.S. Patent No. issuing from USSN 10/024,070, as requested by the Examiner.

As noted by the Examiner, the specification amendments resubmitted herein delete the sequences not in the Sequence Listing, obviating the objection based on the sequence rules.

The title has been amended to change the title to be more descriptive of the claimed invention.

The abstract has been amended to recite the plant and tissue types encompassed by the claimed invention.

The rejection of claim 8 has been obviated by cancellation of that claim.

Claim 3 stands rejected under 35 USC 103(a) as unpatentable over Bagnall et al. (WO 94/28148) in combination with Ram et al. (Plant Cell Tiss. Org. Ciult., 1985, Vol. 4, pages 241-248).

Bagnell et al in does indeed disclose transgenic corn production following WHISKERS treatment. However, the cultures that are used in this case are suspension cultures (stable transformation), immature zygotic embryos (transient) and Type III callus cultures (transient). Suspension cultures proliferate as relatively small clusters of rapidly dividing, surface cells. It is not surprising that WHISKERS can effectively deliver DNA to these cells and recover stably transgenic cultures from which plants can be regenerated. No stable transformation was obtained from the immature zygotic embryos or the callus. In addition the callus that Bagnell uses is what is referred to as Type III. Here is their description of embryogenic callus types:

"Embryos at the appropriate stage of development may be cultured on a suitable medium and they will form embryogenic callus from which plants may be directly regenerated. This may be achieved with the majority of corn genotypes via Type I callus (compact nodular tissue). Certain genotypes will form Type II and Type III embryogenic callus from embryos either directly or from another callus type. Type II is composed of somatic embryos in various stages of maturation but early, that is, stalked embryos on basal callus is preferentially selected at subculture. Type III callus is formed only rarely and is much more friable, that is, it is easily dispersed and does not have any distinct embryos in it. This is ideal tissue for transformation because it is assessable for DNA delivery and will readily form cell suspension cultures."

Rice makes Type I callus only. Bagnell et al do not use Type I callus in any of their examples (they only use suspension cultures for stable transformation and immature zygotic embryos and Type III callus for transient). Type I callus is "compact nodular tissue" that would not be expected to be "assessable for DNA delivery". Therefore using Type I rice callus for WHISKERS transformation might be expected to result in transient expression but not the establishment of stably transformed, regenerable cultures. Bagnell et al does not suggest the claimed invention, since rice is Type I callus not suspension or Type III.

Ram et al. is simply a regeneration method. It has nothing to say about transformation - particularly WHISKERS transformation which can quite damaging to tissue morphology, which is important with respect to Type I callus (compact nodular tissue).

Reconsideration is respectfully requested in light of the foregoing amendments and remarks.

Respectfully submitted,

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